

Substitute Form PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark OfficeAttorney's Docket No.  
08326-046002Application No.  
09/622,112**Information Disclosure Statement  
by Applicant**

(Use several sheets if necessary)

(37 CFR §1.98(b))

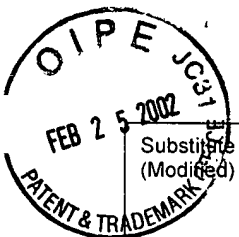
Applicant  
Britton ChanceFiling Date  
August 11, 2000Group Art Unit  
3737**U.S. Patent Documents**

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
<i>RU</i>	AA	6,215,587	04/10/00	Alfano <i>et al.</i>			
	AB	6,108,576	08/22/00	Alfano <i>et al.</i>			
	AC	6,091,983	07/18/00	Alfano <i>et al.</i>			
	AD	6,058,324	05/02/00	Chance			
	AE	6,006,001	12/21/99	Alfano <i>et al.</i>			
	AF	5,987,351	11/16/99	Chance			
	AG	5,983,125	11/09/99	Alfano <i>et al.</i>			
	AH	5,949,077	09/07/99	Alfano <i>et al.</i>			
	AI	5,943,133	08/24/99	Zeylikovich <i>et al.</i>			
	AJ	5,853,370	12/29/98	Chance <i>et al.</i>			
	AK	5,845,639	12/08/98	Hochman <i>et al.</i>			
	AL	5,807,263	09/15/98	Chance			
	AM	5,782,755	07/21/98	Chance <i>et al.</i>			
	AN	5,779,631	07/14/98	Chance			
	AO	5,706,821	01/13/98	Matcher <i>et al.</i>			
	AP	5,673,701	10/07/97	Chance			
	AQ	5,655,530	08/12/97	Messerschmidt			
	AR	5,625,458	04/29/97	Alfano <i>et al.</i>			
	AS	5,596,987	01/28/97	Chance			
	AT	5,551,423	09/03/96	Sugiura			
	AU	5,551,422	09/03/96	Simonsen <i>et al.</i>			
	AV	5,497,769	03/02/96	Gratton <i>et al.</i>			
	AW	5,494,032	02/27/96	Robinson <i>et al.</i>			
	AX	5,431,170	07/11/95	Mathews			
	AY	5,416,582	05/16/95	Knutson <i>et al.</i>			
<i>RU</i>	AZ	5,413,098	05/09/95	Benaron			

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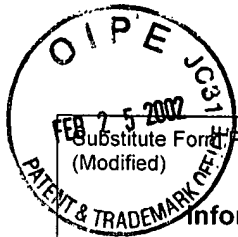
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MU	AAA	5,408,093	04/18/95	Ito <i>et al.</i>			
	ABB	5,402,778	04/04/95	Chance			
	BA	5,358,503	10/25/94	Bertwell <i>et al.</i>			
	BB	5,353,799	10/11/94	Chance			
	BC	5,309,912	05/10/94	Knüttel			
	BD	5,309,907	05/10/94	Fang <i>et al.</i>			
	BE	5,300,097	04/05/94	Lerner <i>et al.</i>			
	BF	5,287,276	02/15/94	Crawford <i>et al.</i>			
	BG	5,277,181	01/11/94	Mendelson <i>et al.</i>			
	BH	5,257,202	10/26/93	Feddersen <i>et al.</i>			
	BI	5,218,962	06/15/93	Mannheimer <i>et al.</i>			
	BJ	5,213,105	05/25/93	Gratton <i>et al.</i>			
	BK	5,203,339	04/20/93	Knüttel <i>et al.</i>			
	BL	5,190,039	03/02/93	Takeuchi <i>et al.</i>			
	BM	5,187,672	02/16/93	Chance <i>et al.</i>			
	BN	5,178,142	01/12/93	Harjunmaa <i>et al.</i>			
	BO	5,174,298	12/29/92	Dolfi <i>et al.</i>			
	BP	5,158,090	10/27/92	Waldman <i>et al.</i>			
	BQ	5,143,081	09/01/92	Young <i>et al.</i>			
	BR	5,139,025	08/18/92	Lewis <i>et al.</i>			
	BS	5,137,355	08/11/92	Barbour <i>et al.</i>			
	BT	5,122,974	06/16/92	Chance			
	BU	5,119,815	06/09/92	Chance			
	BV	5,106,387	04/21/92	Kittrell <i>et al.</i>			
	BW	5,090,415	02/25/92	Yamashita <i>et al.</i>			
MU	BX	5,088,493	02/18/92	Giannini <i>et al.</i>			

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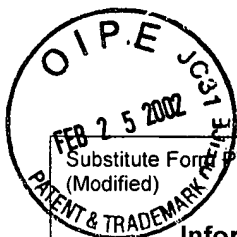
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NU	BY	5,062,431	11/05/91	Potter			
	BZ	5,057,695	10/15/91	Hirao <i>et al.</i>			
	CA	5,035,243	07/30/91	Muz			
	CB	4,972,331	11/20/90	Chance			
	CC	4,951,682	08/28/90	Petre			
	CD	4,940,453	07/10/90	Cadwell			
	CE	4,937,526	06/26/90	Ehman <i>et al.</i>			
	CF	4,926,867	05/22/90	Kanda <i>et al.</i>			
	CG	4,908,762	03/13/90	Suzuki <i>et al.</i>			
	CH	4,880,304	11/14/89	Jaeb <i>et al.</i>			
	CI	4,869,254	09/26/89	Stone <i>et al.</i>			
	CJ	4,846,183	07/11/89	Martin			
	CK	4,836,207	06/06/89	Bursell <i>et al.</i>			
	CL	4,824,242	04/25/89	Frick <i>et al.</i>			
	CM	4,807,637	02/28/89	Bjorkholm			
	CN	4,805,623	02/21/89	Jöbsis			
	CO	4,800,885	01/31/89	Johnson			
	CP	4,800,495	01/24/89	Smith			
	CQ	4,774,679	09/27/88	Carlin			
	CR	4,773,422	09/27/88	Isaacson <i>et al.</i>			
	CS	4,738,267	04/19/88	Lazorthes <i>et al.</i>			
	CT	4,714,341	12/22/87	Hamaguri <i>et al.</i>			
	CU	4,700,708	10/20/87	New, Jr. <i>et al.</i>			
	CV	4,655,225	04/07/87	Dähne <i>et al.</i>			
	CW	4,648,892	03/10/87	Kittrell <i>et al.</i>			
NU	CX	4,612,938	09/23/86	Dietrich <i>et al.</i>			

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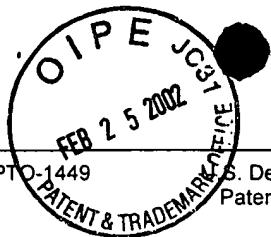
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Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
MM	CY	4,576,173	03/18/86	Parker <i>et al.</i>			
	CZ	4,515,165	05/07/85	Carroll			
	DA	4,510,938	04/16/85	Jöbsis <i>et al.</i>			
	DB	4,469,107	09/04/84	Asmar <i>et al.</i>			
	DC	4,452,250	06/05/84	Chance <i>et al.</i>			
	DD	4,447,884	05/08/84	Wada			
	DE	4,416,285	11/22/83	Shaw <i>et al.</i>			
	DF	4,380,240	04/19/83	Jöbsis <i>et al.</i>			
	DG	4,321,930	03/30/82	Jöbsis <i>et al.</i>			
	DH	4,281,645	08/04/81	Jöbsis			
	DI	4,266,554	05/12/81	Hamaguri			
	DJ	4,259,963	04/07/81	Huch			
	DK	4,224,948	09/30/80	Cramer <i>et al.</i>			
	DL	4,223,680	09/23/80	Jöbsis			
	DM	4,222,389	09/16/80	Rubens			
	DN	4,167,331	09/11/79	Nielsen			
	DO	4,162,405	07/24/79	Chance <i>et al.</i>			
	DP	4,138,727	02/06/79	Mantz			
	DQ	4,129,125	12/12/78	Lester <i>et al.</i>			
	DR	4,119,406	10/10/78	Clemens			
	DS	4,086,915	05/02/78	Kofsky <i>et al.</i>			
	DT	4,029,085	06/14/77	DeWitt <i>et al.</i>			
	DU	4,014,321	03/29/77	March			
	DV	3,998,550	12/21/76	Konishi <i>et al.</i>			
	DW	3,994,585	11/30/76	Frey			
MM	DX	3,866,599	02/18/75	Johnson			

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	Applicant Britton Chance		
	Filing Date August 11, 2000	Group Art Unit 3737	

### U.S. Patent Documents

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
114	DY	3,709,612	01/09/73	Clemens			
	DZ	3,704,706	12/05/72	Herczfeld <i>et al.</i>			
	EA	3,638,640	02/01/72	Shaw			
	EB	3,461,856	08/19/69	Polanyi			
	EC	3,412,729	11/26/68	Smith, Jr.			
	ED	3,068,742	12/18/62	Hicks, Jr. <i>et al.</i>			
	EE	2,790,438	04/30/57	Taplin <i>et al.</i>			
114	EF	2,706,927	04/26/55	Wood			

### Foreign Patent Documents or Published Foreign Patent Applications

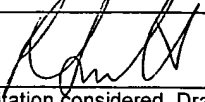
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes	Translation No
114	EG	0 282 234	12/1987	EPO				
	EH	0 196 396	10/1986	EPO				
	EI	0 290 279	09/1985	EPO				
	EJ	0 102 816	03/1984	EPO				
	EK	0 099 756	01/1984	EPO				
	EL	0 488 565 A1	06/1992	EPO				
	EM	2,228,314	08/1990	United Kingdom				
	EN	2 068 537	08/1981	United Kingdom				
	EO	25 38 985	05/1976	Germany				
	EP	43 03 047 A	08/1994	Germany				
	EQ	31 00610 C2	01/1981	Germany				
	ER	208 297	06/1982	Germany				
	ES	61-60903	04/1996	Japan				
	ET	59-1688.34	09/1984	Japan				
114	EU	63-61923	03/1988	Japan				

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Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
MM	EV	63-148307	09/1988	Japan				
	EW	97/20494	12/1997	WIPO				
	EX	96/20638	07/1996	WIPO				
	EY	95/02987	02/1995	WIPO				
	EZ	94/16615	04/1994	WIPO				
	FA	93/25145	12/1995	WIPO				
	FB	93/05686	12/1993	WIPO				
	FC	92/20273	11/1992	WIPO				
	FD	92/13598	08/1992	WIPO				
	FE	90/09003	08/1990	WIPO				
	FF	88/01485	03/1988	WIPO				
MM	FG	84/04665	12/1984	WIPO				

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
MM	FH	PCT International Search Report, Int'l Appln. No. PCT/US97/16309, mailed Feb. 10, 1998, 9 pp.
	FI	Apicella et al., "Fast multi-modality image matching", SPIE, vol. 1092, pp. 252-263, 1989.
	FJ	Arridge, "The Forward and Inverse Problems in Time Resolved Infra-Red Imaging", Medical Optical Tomography: Functional Imaging and Monitoring, SPIE Optical Engineering Press, vol. IS11, pp. 35-64, 1993.
	FK	Arridge et al., "Reconstruction Methods for Infra-red Absorption Imaging", SPIE, vol. 1431, pp. 204-215, 1991.
	FL	Barlow et al., "Breast Biopsy Analysis By Spectroscopic Imaging", Photon Migration in Tissues, Plenum Press, New York, pp. 111-119, 1989.
	FM	Benaron et al., "A Medical Perspective at the Threshold of Clinical Optical Tomography", Medical Optical Tomography: Functional Imaging and Monitoring, SPIE Optical Engineering Press, vol. IS11, pp. 3-9, 1993.
	FN	Bonner et al., "Model for photon migration in turbid biological media", J. Opt. Soc. Am. A., vol. 4, No. 3, pp. 423-427, 1987.
MM	FO	Chance, "The Future of Time Resolved Spectroscopy and Imaging", Proceedings of The Third International Conference: Peace through Mind/Brain Science, pp. 166-172, Aug. 5-10, 1990, Hamamatsu, Japan.

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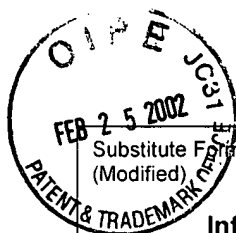
Examiner Initial	Desig. ID	Document
M	FP	Chance et al., "Time Resolved Spectroscopy of Hemoglobin and Myoglobin in Resting and Ischemic Muscle", Anal. Biochem. 174:698-707, 1988.
	FQ	Chance et al., "Photon Migration in Muscle and Brain", Photon Migration in Tissues, Plenum Press, New York, pp. 121-135, 1989.
	FR	Chance et al., "Rapid and Sensitive Spectrophotometry. I. The Accelerated and Stopped-Flow Methods for the Measurement of the Reaction Kinetics and Spectra of Unstable-Compounds in the Visible Region of the Spectrum", The Review of Scientific Instruments, vol. 22, pp. 619-627, 1951.
	FS	Chance et al., "Rapid and Sensitive Spectrophotometry. II. A Stopped-Flow Attachment for a Stabilized Quartz Spectrophotometer", The Review of Scientific Instruments, vol. 22, pp. 627-638, 1951.
	FT	Chance et al., "Comparison of time-resolved and -unresolved measurements of deoxyhemoglobin in brain", Proc. Natl. Acad. Sci. USA., vol. 85, pp. 4971-4975, 1988.
	FU	Colak et al., "Optical BackProjection Tomography in Heterogeneous Diffusive Media", Advances in Optical Imaging and Photon Migration, TOPS, vol. 2, pp. 282-289, 1996.
	FV	Cui et al., "Experimental Study of Migration Depth for the Photons Measured At Sample Surface", SPIE, vol. 1431, pp. 180-191, 1991.
	FW	Feng et al., "Analytical perturbation theory of photon migration in the presence of a single absorbing or scattering defect sphere", SPIE, vol. 2389, pp. 54-63, 1995.
	FX	Fishkin et al., "Diffusion of Intensity Modulated Near-Infrared Light in Turbid Media", SPIE, vol. 1431, pp. 122-135, 1991.
	FY	Gratton et al., "The Possibility of a Near Infrared Optical Imaging System Using Frequency Domain Methods", Mind Brain Imaging Program, Aug. 5-10, 1990, Hamamatsu, Japan.
	FZ	Grünbaum et al., "Diffuse Tomography", SPIE, vol. 1431, pp. 232-238, 1991.
	GA	Greenfeld, "A Tissue Model for Investigating Photon Migration in Trans-Cranial Infrared Imaging", Photon Migration in Tissues, Plenum Press (New York), pp. 147-168, 1989.
	GB	Grinvald et al., "Functional Architecture of Cortex Revealed by Optical Imaging of Intrinsic Signals", Nature, 324:361-364, 1986.
	GC	Haida et al., "A Method to Estimate the Ratio of Absorption Coefficients of Two Wavelengths Using Phase Modulated NIR Spectroscopy", abstract submitted to ISOTT in Mainz, Germany, 1992.
	GD	Haida et al., "A Method to Estimate the Ratio of Absorption Coefficients of Two Wavelengths Using Phase Modulated Near Infrared Light Spectroscopy", Oxygen Transport to Tissue XV, Plenum Press, New York, vol. 345, pp. 829-835, 1994.
	GE	Haida et al., "A Method to Estimate the Ratio of Absorption Coefficients of Two Wavelengths Using Phase-Modulated Near Infrared Light Spectroscopy", Analytical Biochemistry, vol. 208, pp. 348-351, 1993.
	GF	Hajnal et al., "Artifacts Due to Stimulus Correlated Motion in Functional Imaging of the Brain", MRM, pp. 283-291, 1994.
	GG	Hoshi et al., "Detection of dynamic changes in cerebral oxygenation coupled to neuronal function during mental work in man", Neuroscience Letters, vol. 150, pp. 5-8, 1993.
M	GH	Maki et al., "Spatial and temporal analysis of human motor activity using noninvasive NIR topography", Med. Phys., vol. 22, No. 12, pp. 1997-2005, 1995.

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M	GI	Matcher et al., "Absolute quantification methods in tissue near infrared spectroscopy", SPIE, vol. 2389, pp. 486-495, 1995.
	GJ	Nioka et al., "Optical Imaging of Breast Tumors with various methods", Oxygen Transport to Tissue, vol. XVIII, pp. 227-232, 1997.
	GK	Oda et al., "Non-Invasive Hemoglobin Oxygenation Monitor and Computered Tomography by NIR Spectrophotometry", SPIE 1431:284-293, 1991.
	GL	Ogawa et al., "The Sensitivity of Magnetic Resonance Image Signals of a Rat Brain to Changes in the Cerebral Venous Blood Oxygenation", MRM, vol. 29, pp. 205-210, 1993.
	GM	Patterson et al., "Time resolved reflectance and transmittance for the non-invasive measurement of tissue optical properties", Applied Optics, vol. 28, No. 12, pp. 2331-2336.
	GN	Pelizzari et al., "Accurate Three-Dimensional Registration of CT, PET, and/or MR Images of the Brain", J. Computer-Assisted Tomography, vol. 13, No.1, pp. 20-26, 1989.
	GO	Polishchuk et al., "Non-Euclidean diffusion and 'Format' photons in turbid media", SPIE, vol. 2389, pp. 6-9, 1995.
	GP	Sevick et al., "The physical basis of biomedical optical imaging using time-dependent measurements of photon migration in the frequency domain", Medical Optical Tomography: Functional Imaging and Monitoring, SPIE Optical Engineering Press, vol. IS11, pp. 483-512, 1993.
	GQ	Sevick et al., "Analysis of Absorption, Scattering and Hemoglobin Saturation Using Phase Modulation Spectroscopy", SPIE vol. 1431, pp. 264-275, 1991.
	GR	Sevick et al., "Photon Migration in a Model of the Head Measured Using Time- and Frequency- Domain Techniques Potentials of Spectroscopy and Imaging", SPIE, vol. 1431, pp 84-96, 1991.
	GS	Sevick et al., "Quantitation of Time-and Frequency-Resolved Optical Spectra for the Determination of Tissue Oxygenation," Analytical Biochemistry, vol. 198, pp. 330-351, 1991.
	GT	Singer et al., "Image Reconstruction of the Interior of Bodies that Diffuse Radiation", Science, vol. 248, pp. 990-993, 1990.
	GU	Weng et al., "Measurement of Biological Tissue Metabolism Using Phase Modulation Spectroscopy Technology," SPIE, 1431:161-171, 1991.
	GV	Woods et al., "Rapid Automated Algorithm for Aligning and Reslicing PET Images", J. Computer Assisted Tomography, vol. 16, No. 4, pp. 620-633, 1992.
M	GW	Yamashita et al., "The Neonate Brain (NIR) and Breast Imaging Using Transillumination", Photon Migration in Tissues, Plenum Press, New York, pp. 55-67, 1989.
	GX	Brochure, Becton Dickinson, Cardio-Green® (CG®) HW&D Brand of Sterile Indocyanine Green, USP, Apr. 1981.
	GY	"Watching The Brain At Work", IEEE, Spectrum, vol. 20, No. 3, pp.52-57, 1983.

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